

eSID

extended Saab Information Display



Manual for Software 1.14.0

2014-02-13

What is eSID ?

- eSID collects data from the vehicle and present it to the driver. Information that is normally not visible. eSID collect data all the time when its connected, even if a different display function is used or if its currently not controlling the display.
- Additionally it also realize a three blink function, a faultcode reader/clearer for most of the ECU's in the Saab 9-3 and a customizable startup welcome text
- The unit fits into a OBD-connector housing and can easily be mounted/removed from the vehicle

eSID functions

- Momentary fuel consumption
- Total accumulated fuel/distance
- Drive Time
- Battery voltage
- Maximum measured torque/power (only on B207 and B284-engines)
- Momentary Vehicle data (Engine Speed, Vehicle Speed + Torque/Power on B207/B284)
- Tire pressure (vehicles with Tire Pressure Monitor System)
- Acceleration tests (0-100, 70-120 km/h, 0-201m etc)
- ECU Faultcode Read/Clear
- Automatic FogLight when turning on ParkLight.
- Three Blink (touch direction stalk and get three "blink")

Can i have this in my vehicle?

- The eSID only works on Saab 9-3 MY07-12 and its plug and play. Just connect it to the OBD-connector near the accelerator pedal and start using it directly.
- Installation time: Expert: 5 seconds
Beginner: 1 minute

(should also work on Cadillac BLS, all model years, but not tested)

User interface

- Start eSID with an long press on **CLR**-switch
- Stop eSID with an short press on **CLR**-switch
- Change display functions with **INFO UP/DN** and use **SET** switch to reset data or to activate subfunctions
- Three-blink is always active, use the direction stalk



Limitations

- eSID is well integrated but is still an external add-on system, so there are limitations:
 - Long press on **CLR** is normally used to clear trip computer. To inhibit start of eSID and perform this operation, either disconnect the eSID (and reset its values aswell) or let it be connected with the ignition on, engine turned off and accelerator pedal pressed more than 80%. This will inhibit eSID functionality.



Momentary Fuel consumption

- During standstill the estimated fuel amount per hour is calculated on a two second period and then extrapolated



- During driving only the digits show, not the unit "L/10km" to avoid unnecessary information

Total accumulated fuel/distance

- Two counters are used to collect the total accumulated fuel/distance. The correction factors are used on these values aswell when presented to the driver
- Reset the values with a press on **SET**

(Note! You have to reset fuel/distance individually)



Momentary Fuel add-on functions

Gear indication of Automatic Transmission

- On automatic transmission vehicles, the current gear is shown in the upper right corner of the Momentary Fuel function if the gear selector is in DRIVE-position



Slippery road warning

- When outside temperature is zero degrees or lower, eSID will show '*' in the upper right corner of the Momentary Fuel function (next to the current gear if automatic).

Drive Time

- Function is intended to show the total driving time for the trip including short stops with engine off
- Resets when the key is removed from the ignition lock.
- Starts to count when vehicle starts to move, and keeps counting when the vehicle is later standstill or engine is off with key still in ignition
- Its possible to manually reset the counter at any time with the **SET**-switch



Maximum measured torque/power

- eSID HW limitations prevents the use of torque information sent from ECM on HSCAN-bus. On the B207 and B284-engines however, the torque signals are able to be calculated from other signals

B207

1. It only work with correct `TrqMast.Trq_Nominal` (i.e. not if you have tuned the car and tricked the torque limitations without changing this map)
2. eSID needs to know the value of `BoostMeterCal.Trq_MaxTorque` to correctly calculate the torque/power values. See settings slide

B284

1. Only verified on a original 280hp B284 XWD, but should work on other B284 variants and tuned cars if `TrqFactor` is adjusted accordingly. See settings slide.

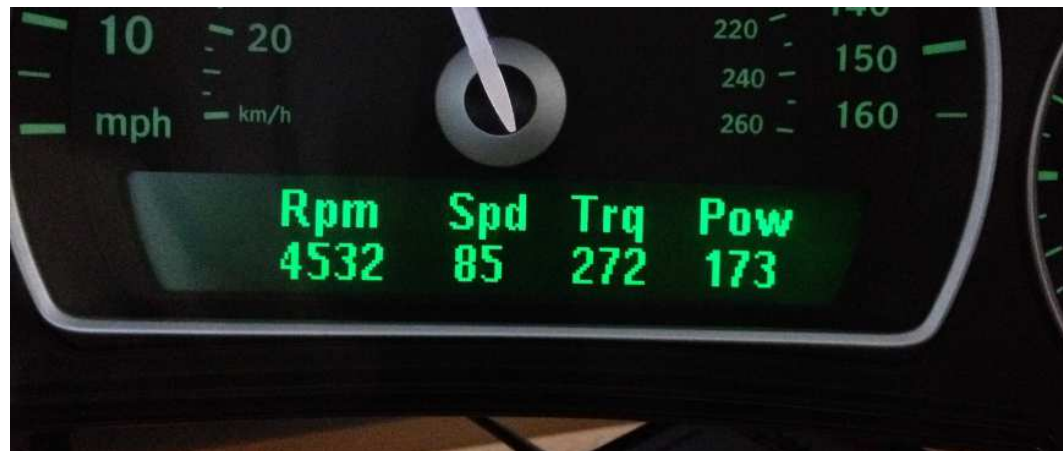
Maximum measured torque/power

- Reset the values with a press on **SET**



Momentary Vehicle Data

- Shows the same as the analog meters as reported by the Engine Control Module and Anti-lock Brake System but without any filter.
- On B207 and B284 engines it also shows Torque/Power (if Trq > 30Nm)



Tire pressure

- This information is shown if the vehicle is equipped with the Tire Pressure Monitor System (TPMS). Shows the relative pressure in the tires in the following order:
 - Front Left
 - Front Right
 - Rear Left
 - Rear Right

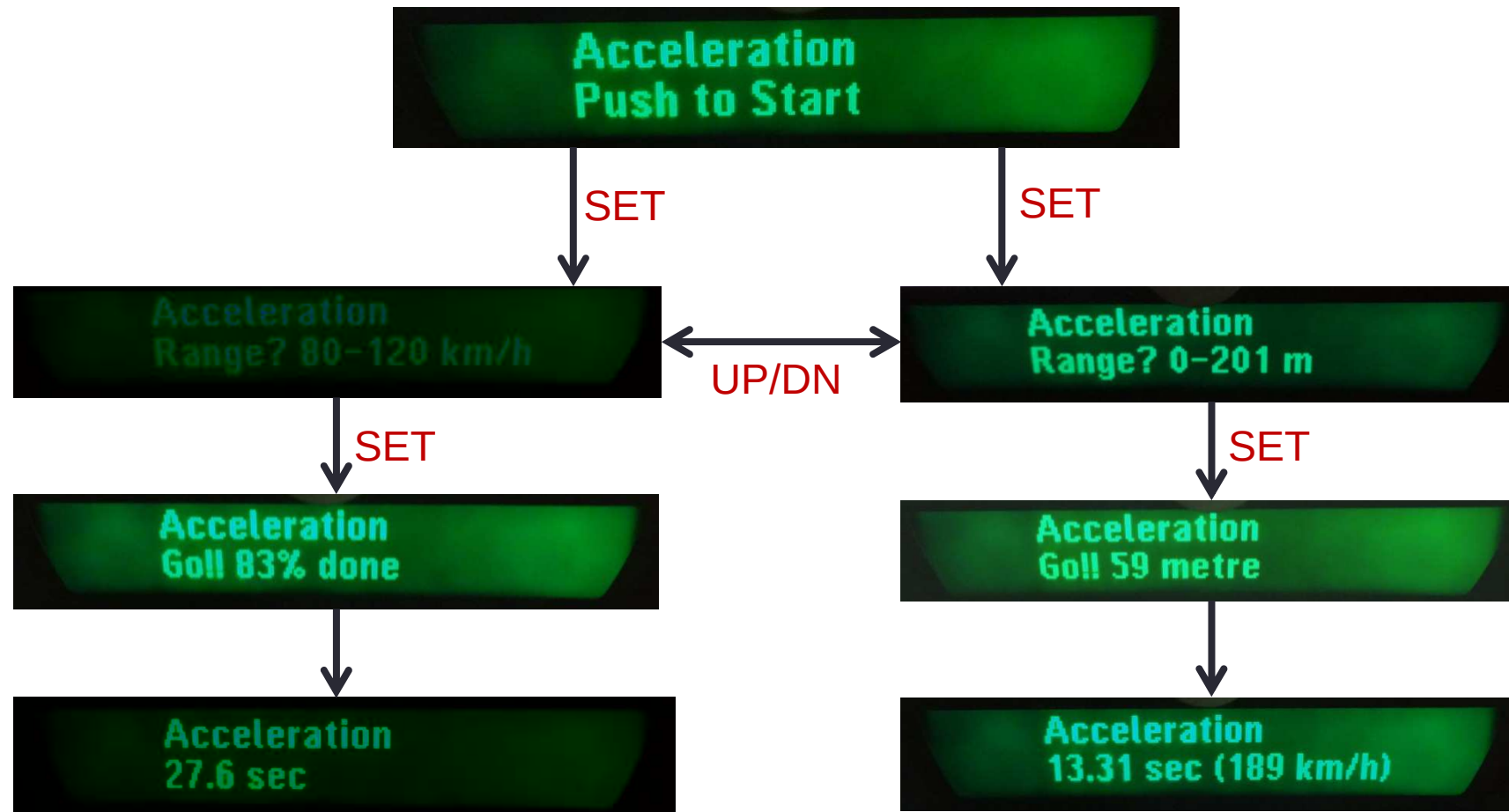


Acceleration

- Calculates the time between start/stop for the given speed range/distance. On distance also the end speed is shown
 - 0-100 km/h
 - 70-130 km/h
 - 80-120 km/h
 - 0-180 km/h
 - 100-150 km/h
 - 100-200 km/h
- 0 – 201 metre
- 0 – 402 metre



Acceleration

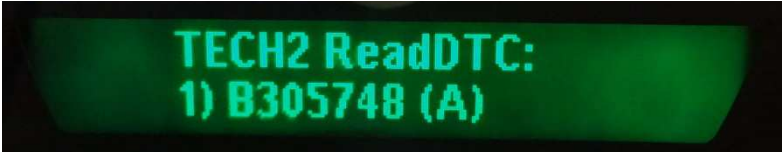


ECU Faultcode Read/Clear

- These functions are disabled if the vehicle is moving or if the engine is running. Reads/Clears all the (A)ctive and (H)istory faultcodes in the ECUs on Low-speed CAN (i.e. not Engine/Transmission/Brake)
- The code(s) can then be looked up in SAAB WIS for further faulttracing



TECH2 ReadDTC:
MIU: 3 codes



TECH2 ReadDTC:
1) B305748 (A)

Three Blink

- This is a function that should have been standard.
- When touching the direction indication stalk during a "lagom" amount of time (not too quick or too long), the eSID will give two extra blinks in the same direction
- If the driver interrupts the Three Blink function by using the stalk in left or right direction, then the function is disabled for three seconds

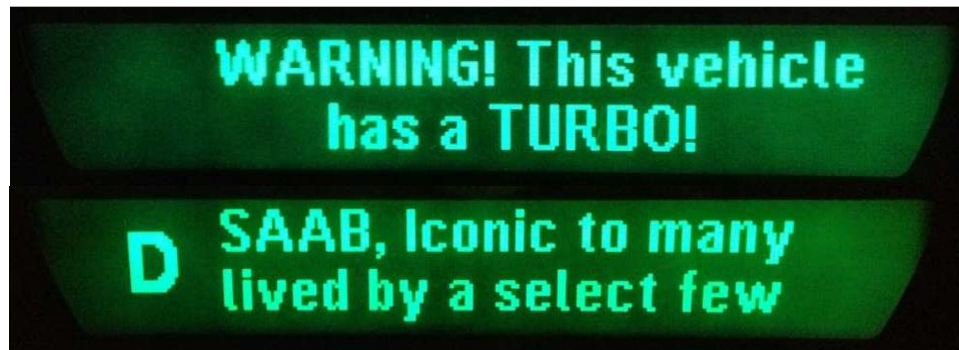
Auto FogLight

- To save the normal low beam lights, it is common in Sweden to use park light together with front fog light.
- Normally the driver needs to manually switch the light switch to "Park" and press the fog light switch. eSID helps with the activation so the driver only needs to turn the light switch to "Park"
- When turning to "Park" from "Off" or "Lowbeam" (and FogLights are off), then they will automatically be activated.



Welcome Text

- eSID has a customizable startup welcome text, shown after "Control OK" when turning on the ignition
- This function is active after the eSID startup is complete (startup text that is shown the first time, with SW version)
- When turning off the ignition, it has to remain off for a couple of seconds before turning it on again to trigger the welcome text (same time that will trigger the "Control OK")



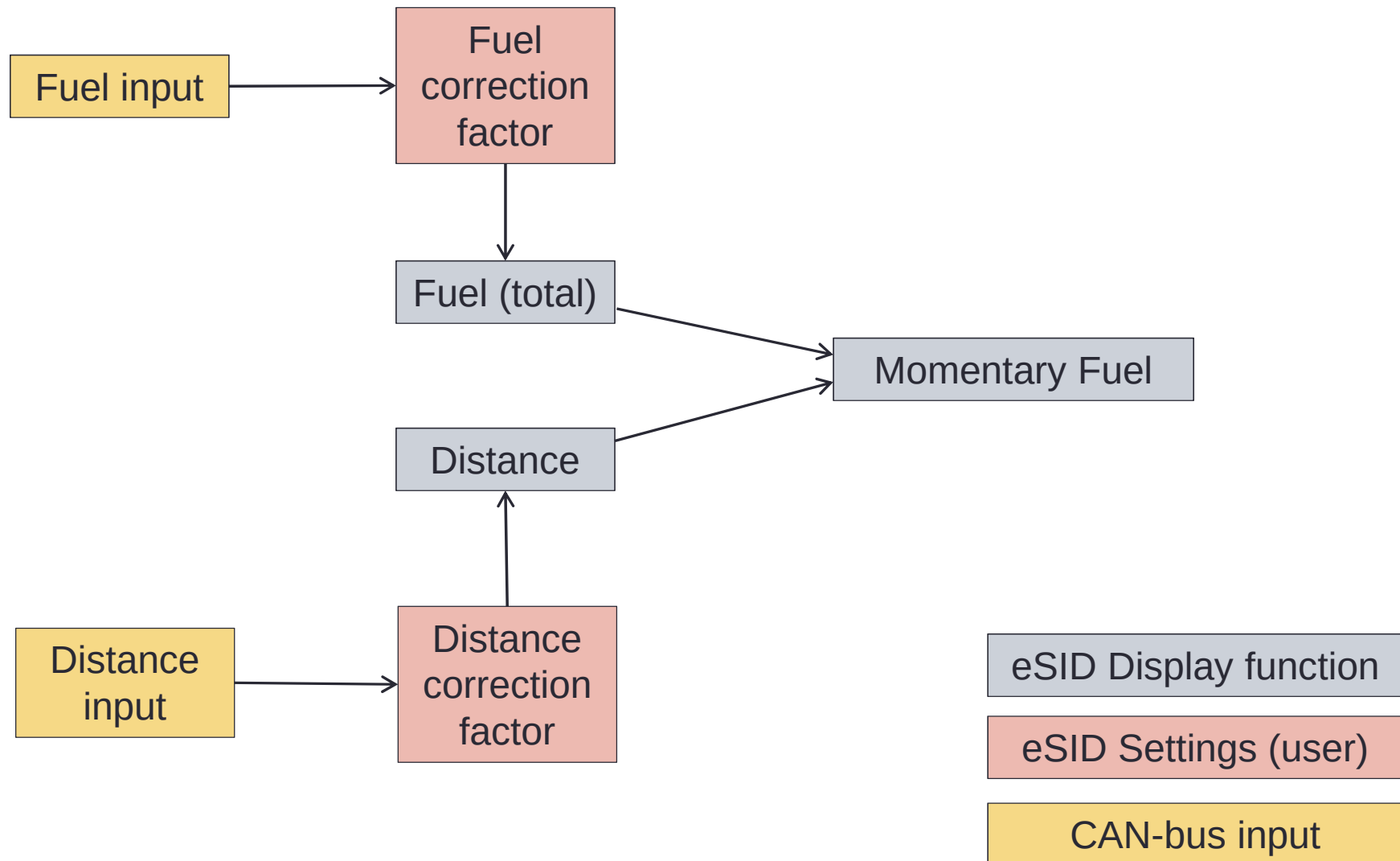
eSID Settings

- Some parameters are saved in the microcontroller's EEPROM and can be configured here
- 1) **Engine**: Choose B207,B284 or Other.
- 2) **TrqFactor**: Needed for Torque/Power function. See table on next page
- 3) **Fuel correction factor**: Used to trim the counters to be more accurate, see next slide.
Ex: 1,052 = 5.2% more fuel
 0,981 = 1,9% less fuel
- 4) **Dist correction factor**: Same as above for distance
- 5) **Welcome Text**: Choose the startup text and if its enabled
- 6) **AutoFogLight**: Disable/Enable the AutoFogLight function

eSID Settings

- Fuel correction factor
 - Injectors deviations, injectors non-linearity etc. Use this factor to compensate for the value recieved from ECM. For example if you fill up the tank completely and later fill it up again with ex. 51.3L and eSID shows 50.2L, change the correction factor to $51.3/50.2 = 1.022$ (if the factor before was 1.000)
- Distance correction factor
 - The cluster has already a compensation on the tire size which eSID doesnt have so this needs to be calculated. Either change the factor so that eSID shows the same distance as the normal SID, or use any method of your own to measure it more exact. Note that if you change tire size the value will change.

eSID Settings

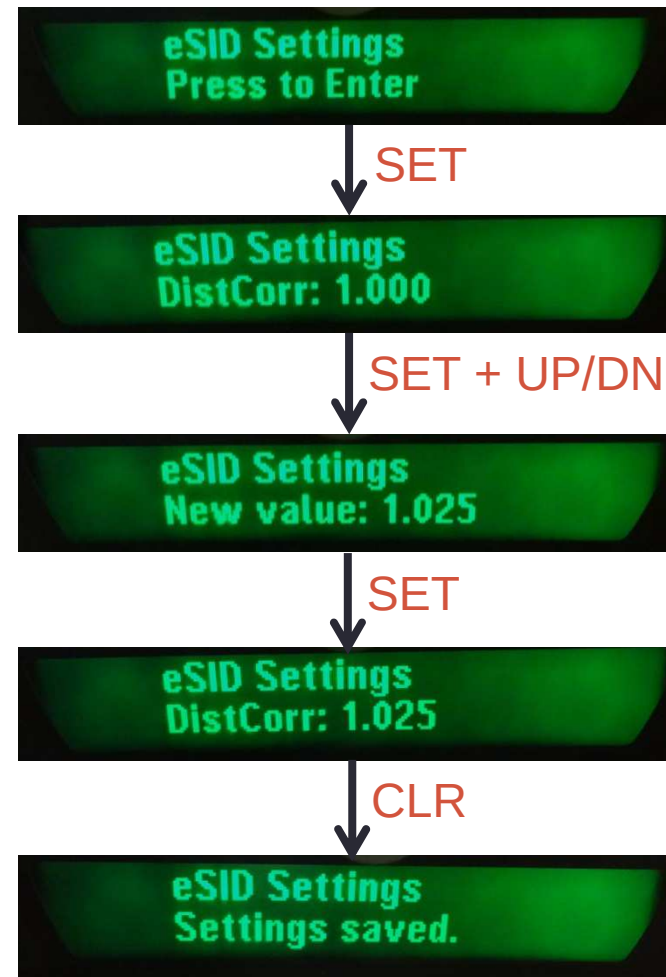


eSID Settings

B207 Variants	TrqFactor [Nm]
1.8t/2.0t 150/175hp (also BioP)	265
2.0T 210hp	300
2.0t BioP 220hp Hirsch	310

- Note! Tuned T8-vehicles can use this function, but TrqFactor needs to be equal to the parameter BoostMeterCal.Trq_MaxTorque.

B284 Variants	TrqFactor [Nm]
250hp	Not tested yet
280hp XWD	400



eSID Settings: Welcome Text

- Press **UP/DN** to change the character, press **SET** to go the next one. Once the first row is done it continues on the second



Additional functions

- "Stealth mode activated" when entering Night Panel.

